



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,980	03/20/2001	In Ho Choi	2080-3-09	1464

35884 7590 11/19/2003

LEE, HONG, DEGERMAN, KANG & SCHMADEKA, P.C.
801 SOUTH FIQUEROA STREET
14TH FLOOR
LOS ANGELES, CA 90017

EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 11/19/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,980

Applicant(s)

CHOI, IN HO

Examiner

Peter Vincent M Agustin

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 14245/2000, filed on 3/21/2000.

Specification

2. The abstract of the disclosure is objected to because of the following informality:
Line 9: Change "second" to --first--.
3. The disclosure is objected to because of the following informalities:
Page 9, line 13: Change "explanation" to --explanation--.
Page 13, line 3: Change "502" to --501--, to match reference drawing.
Page 16, line 9: Change "he" to --the--.
4. Claim 20 is objected to because of the following informality:
Page 24, line 13: Change "cobination" to --combination--.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
6. Claim 17 is rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a substantial asserted utility or a well established utility for the reasons set forth below, one skilled in the art clearly would not know how to use the claimed invention.

Magnetic circuits for optical pick-up actuators as well known in the art have been designed and configured such that the magnetic paths of each of the individual magnetic circuits converge on a limited space. Presence "beyond the magnetic path" as described in claim 17 is considered an undesirable characteristic of magnetic circuits as taught by Tanaka (US-5903539, see column 7, line 66 thru column 8, line 36 and Figures 10-12) in the objective lens driving art, for example.

For another example, Miyoshi et al. (JP-09231593A, see basic-abstract) disclose an optical pickup actuator apparatus having a pair of auxiliary magnets whose magnetic line of force intersect with that of drive magnets positioned on both sides of holder. This reference aims to eliminate external magnetic fields on the actuator and consequently improves the optical characteristics of the actuator and protects the magnetic circuit.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1-16, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagasato (US-6181670).

Column 8, lines 22-34 and Figure 1 disclose the "lens holder mounted with an object lens and attached with coils", "supporting means", "fixed body mounted with the lens holder and attached with a pair of first magnets and a coil", and "second magnets mounted to the lens holder" of claim 1. Figure 1, parts 116, 118, and 2 disclose "the second magnets are arranged in the lens holder" (claim 3). Figure 1, parts 114 and 138 disclose "the coils are mounted to the fixed body to which the first magnets are mounted" (claim 6) and "one of the coils is mounted to the fixed body to which the first magnets are mounted" of claim 7. Figure 1, parts 112 and 136 disclose "the remaining coils are mounted to separate fixed bodies" of claim 7. Figure 1, parts 2, 114, 138, 112 and 136 disclose "the separate fixed bodies are arranged at opposite sides of the lens holder" (claim 8).

Column 9, lines 4-17 and column 11, lines 45-67 disclose "the first magnets serve to conduct tracking and focusing operations, and the second magnets serve to conduct a tilt compensating operation" (claim 2) and "second magnets comprises a magnet for conducting a tangential tilt compensating operation, and a magnet for conducting a radial tilt compensating operation" (claim 4). Furthermore, column 11, lines 34-41 teaches a device "capable of separately carrying out operations for turning the

movable unit in the tangential tilt direction and the radial tilt direction for tilt correction", i.e., the magnets of claim 4.

Figures 33a and 33b, and column 18, lines 15-27 disclose "the lens holder serves as the second magnets" (claim 5) and "made of plastic material" (claim 19).

Column 11, line 45 thru column 12, line 40 and Figure 7 disclose the "first magnet means operated by a moving magnet system to conduct tracking and focusing operations" of claim 9 and the "second magnet means operated by a moving magnet system to conduct a tilt compensating operation" of claim 12. Column 16, lines 6-47 and Figure 22 disclose the "second magnet means operated by a moving coil system to conduct a tilt compensating operation" of claim 9 and the "first magnet means operated by a moving coil system to conduct tracking and focusing operations" of claim 12.

Figure 7, parts 11a-11d, 12a, 12b, 5a-5d and 13a-13d disclose "the second magnet means is adapted to conduct a tilt compensation in a tangential direction and a tilt compensation in a radial direction" (claim 10) and "comprises a magnet unit for conducting a tilt compensation in a tangential direction, and a magnet unit for conducting a tilt compensation in a radial direction" (claim 11).

Figure 22, parts 23a-23d, 24a, 24b and 25a-25f disclose "the first magnet means is adapted to conduct a tilt compensation in a tangential direction and a tilt compensation in a radial direction" (claim 13) and "comprises a magnet unit for conducting a tilt compensation in a tangential direction, and a magnet unit for conducting a tilt compensation in a radial direction" (claim 14).

Figure 7, parts 11a-11d, 12a, 12b, 5a-5d and 13a-13d and Figure 22, parts 23a-23d, 24a, 24b and 25a-25f disclose the "first magnetic unit driven in accordance with a moving coil system for tracking and focusing operations or radial and tangential tilting operations" and "second magnetic circuit unit driven in accordance with a moving magnetic system for the radial and tangential tilting operations when the first magnetic circuit unit is driven for the tracking and focusing operations while being driven in accordance with the moving magnetic system for the tracking and focusing operations when the first magnetic circuit unit is driven for the radial and tangential tilting operations" of claim 15.

The configuration of the magnets and coils in Figures 7 and 22 teach that the "magnetic paths for the magnetic circuit units" are "present in the same space" (claim 16).

Figure 27, parts 27a-27h, 7a and 7b and column 17, lines 8-30 disclose the "coils included in each of the magnetic circuit units for the tracking and focusing operations or the radial and tangential tilting operations is supplied with current via a supporting means" of claim 18. Figure 11 discloses the "coils included in the magnetic circuit unit and associated with the remaining operations are connected to a fixed body" of claim 18. Nagasato in the objective lens driving art, discloses all the subject matter claimed, except for the claimed "flux linkage resulting from the magnetic circuit of both said moving part and said fixed part exists in a space between said moving part and said fixed part".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasato in view of Gijzen et al. (US-4767187)

Nagasato in the objective lens driving art, discloses all the subject matter claimed, except for the claimed "combination of a moving coil system and a moving magnet system". Figure 1 discloses "a moving part which includes a lens holder mounted with an object lens, a magnet and coils at an outer surface of said moving part", "a fixed part which includes a magnet attached on a yoke and coils at an outer surface", and "supporting means". The configuration of magnets and coils in figure 1 inherently provides "flux linkage resulting from the magnetic circuit of both said moving part and said fixed part exists in a space between said moving part and said fixed part".

Gijzen et al. in the optical scanning art, discloses "combination of a moving coil system and a moving magnet system" (see column 6, lines 28-36) in order to provide an alternative scheme of moving an optical head. Gijzen et al. teaches to "replace one or more magnets of the frame by one or more suitable coils, which may be affected in combination with the replacement of the coils of the optical holder by magnets".

Applicant should note that replacing "one magnet" of the frame with "one coil" and

replacing "one coil" of the optical holder with "one magnet" inherently suggests a combination of a moving magnet and moving coil system.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to provide the claimed "combination of a moving coil system and a moving magnet system" of Gijzen et al. to Nagasato in order to provide an alternative setup of the magnetic elements required to move the optical head in different directions.

Conclusion

11. The following prior art made of record and not relied upon are considered pertinent to applicant's disclosure.

Yamaguchi et al. (US-6341104) disclose an optical pickup apparatus capable of performing a tilt control in both the radial and tangential directions while maintaining a reduced size and thickness of the optical pickup apparatus.


Tomita et al. (US-5475661) disclose an objective lens actuator with frame shaped leaf springs acting as elastic members aimed to minimize focusing and tracking errors.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent M Agustin whose telephone number is (703) 305-8980. The examiner can normally be reached on Monday thru Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

Art Unit: 2652

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



BRIAN E. MILLER
PRIMARY EXAMINER

Peter Vincent Agustin

11/17/2003